IN THE CLAIMS:

A full listing of all claims is as follows.

1.-15. (Canceled)

16. (Currently Amended) A process for treating tissue at a treatment site within a body lumen, comprising:

providing an elongate flexible catheter having a flexible treatment sheath mounted to a distal end region of the catheter and a dilatation balloon within the flexible treatment sheath, wherein the flexible treatment sheath is formed of an elastic material and the dilatation balloon is formed of a substantially inelastic material;

intraluminally advancing the elongate flexible catheter until the flexible treatment sheath is adjacent a predetermined treatment site;

while maintaining the dilatation balloon in an unexpanded condition, supplying a treatment fluid under pressure to a compartment formed by the treatment sheath, to elastically expand the treatment sheath radially into a substantially conforming contact with the surrounding tissue at the treatment site, cause the treatment fluid to pass through the treatment sheath from the compartment to the surrounding tissue, and maintain the treatment sheath expanded into said contact; and

while maintaining the treatment sheath in said substantially conforming contact with the surrounding tissue at the treatment site, radially expanding the dilatation balloon within the compartment, whereby the dilatation balloon acts radially upon the surrounding tissue through the treatment sheath to effect a dilatation of the surrounding tissue.

17. (Previously Presented) The process of claim 16 further comprising:

following said dilatation, radially contracting the dilatation balloon while maintaining the treatment sheath in said contact to administer the treatment fluid to the dilatated tissue; and

following said administering of the treatment fluid, discontinuing the supplying of the treatment fluid to allow the treatment sheath to radially contract under a residual elastic force.

18. (Previously Presented) The process of claim 17 further comprising:

after allowing the treatment sheath to radially contract, proximally withdrawing the catheter from the body lumen.

19. (Original) The process of claim 16 wherein:

said advancing of the catheter includes intraluminally positioning a guidewire with a distal end thereof outside of the body, inserting the proximal end of the guidewire within the distal end of a guidewire lumen running through the catheter, and advancing the catheter distally relative to the guidewire.

20. (Previously Presented) The process of claim 16 wherein:

said supplying of the treatment fluid comprises providing the treatment fluid to the compartment via treatment fluid supply lumen of the catheter at a predetermined treatment fluid pressure.

21. (Previously Presented) The process of claim 20 wherein:

said supplying of the treatment fluid comprises causing the treatment fluid to perfuse through multiple pores in said treatment sheath.

22. (Previously Presented) The process of claim 17 wherein:

said dilatation balloon radially enlargeable by supplying a dilatation fluid to a dilatation chamber formed by the balloon and the catheter, and wherein said contraction of the dilatation balloon comprises withdrawing the dilatation fluid from the dilatation chamber to substantially evacuate the dilatation balloon.

23. (Previously Presented) The process of claim 17 wherein:

said allowing the treatment sheath to radially contract comprises withdrawing the treatment fluid from the compartment.

24. (Previously Presented) The process of claim 16 further comprising:

while maintaining the treatment sheath in said substantially conforming contact, allowing a flow of body fluids through the catheter past the treatment site.

25.-37. (Canceled)

38. (Previously Presented) The process of claim 16, wherein said treatment sheath is formed of a biocompatible elastomeric material consisting essentially of at least one of the following: latex, urethane, silicone, and a thermoplastic elastomer.

39. (Previously Presented) The process of claim 38, wherein the biocompatible elastomeric material has a modulus of elasticity in the range of 2,000 to 80,000 psi, said sheath has a uniform thickness in the range of 0.5-5 mils, whereby the treatment sheath elastically expands into said substantially conforming contact.